

From: [Martinez Andrea L](#)
To: [Huggins, Richard](#); [Jackson, Mary](#); [Lloyd, Michelle](#); [Mills, Jason](#)
Cc: [Montalvo Kara M](#); [Larson Craig R](#)
Subject: Salt River Project, Coronado Generating Station, Alternate Liner Demonstration Extension Request
Date: Wednesday, September 1, 2021 11:28:56 AM
Attachments: [2021-0831 SRP CGS Evaporation Pond Part B Extension-F.pdf](#)

Good Afternoon,

Please find the attached file to the Salt River Project (SRP) Alternate Liner Demonstration Extension, due to analytical limitations pursuant to the Code of Federal Regulations Title 40 CFR § 257.71(d) for its "Evaporation Pond" at SRP's Coronado Generating Station ("CGS"), located in St. Johns, Apache County, Arizona. SRP needs until April 14, 2022 to complete its hydraulic conductivity measurements and compile its alternate liner demonstration. This requested completion date is based on the certified expected date of completion of the final hydraulic conductivity laboratory test and reporting plus the allowable 45 day timeframe to complete and the submit the demonstration.

Any questions regarding the contents of this extension request may be directed to myself, Andrea Martinez at 602-236-2618 or Andrea.Martinez@srpnet.com. If you have any issues accessing the attachment, please let me know. A successful transmittal notification would be greatly appreciated. Thank you so much for your time and consideration.

Andrea Martinez

Water Quality & Waste Management Services Manager
SRP | Environmental Services | Mail Stop PAB 359
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2618 | M: [REDACTED]

Confidentiality Notice

This message and any accompanying attachments may contain confidential and/or privileged information. The message and attachments should be read and retained by intended recipients only. If you received this message in error, please notify the sender immediately and delete the message and any attachments.



Craig R. Larson, Director
Coronado Generating Station
PO Box 1018 Mail Station CGS600
St. Johns, AZ 85936
P: (928) 337-5501 | F: (928) 337-2961

Submitted via electronic mail

August 31, 2021

Mr. Michael Regan
Administrator, US USEPA
US USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue NW
Washington, DC 20460

RE: Request for Extension Due to Analytical Limitations in Accordance with 40 CFR § 257.71(d)(2)(ii)

Through this letter, and the supporting attachments, the Salt River Project Agricultural Improvement and Power District ("SRP") requests an extension to the alternative liner demonstration (ALD) demonstration deadline due to analytical limitations pursuant to the Code of Federal Regulations Title 40 ("40 CFR") § 257.71(d)¹ for its "Evaporation Pond" at SRP's Coronado Generating Station ("CGS"), located in St. Johns, Apache County, Arizona. SRP needs until April 14, 2022 to complete its hydraulic conductivity measurements and compile its alternate liner demonstration. This requested completion date is based on the certified expected date of completion of the final hydraulic conductivity laboratory test and reporting plus the allowable 45-day timeframe to complete and the submit the demonstration.

Background

SRP is a not-for-profit, community-based, public power provider that provides retail electric services to over 1 million residential, commercial, industrial, agricultural, and mining customers in Arizona. SRP owns and operates CGS, a 780-megawatt (net) electricity generating facility that includes two coal-fired generating units that began operation in 1979. Coal combustion residuals ("CCR") generated at the plant are managed by dry placement within an ash disposal landfill, sluicing to a surface impoundment commonly referred to by SRP as the Evaporation Pond, or through beneficial use via sale to third-party vendors. The location of the CGS facility and Evaporation Pond are shown on Figure 1².

¹ Pursuant to the regulatory final rulemaking under the USEPA's 40 CFR Part 257 [USEPA-HQ-OLEM-2019-0173; FRL-10015-88-OLEM] Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments effective December 14, 2020 (Part B), 85 Fed. Reg. 72506 (Nov. 12, 2020) [hereinafter "Part B rule"].

² Figures, Attachments, and Tables referenced in this Application are included as Enclosures following the text of the Application.

SRP submitted an Application and Notice of Intent to Submit an Alternate Liner Demonstration in Accordance with 40 CFR § 257.71(d)(1)(ii), dated November 25, 2020 for the CGS Evaporation Pond that was received by USEPA on November 30, 2020 as stated on USEPA's website. As indicated in its July 16, 2021 letter to USEPA,³ as a result USEPA's delayed determinations on SRP's Part B application, SRP made the difficult decision to undertake the necessary field work to complete its demonstration at risk despite the lack of a determination on its Part B application. As of August 30, 2021, SRP has completed drilling and sample collection for 57 boreholes with total depths ranging from approximately 250 to 350 feet. The preliminary results of the on-going field investigation continue to support SRP's original determination that the 200 to 250 feet of low permeability Chinle clay that underlies the Evaporation Pond provides an effective seepage barrier to the uppermost aquifer such that continued operation of the unit poses no reasonable probability of adverse effects to human health or the environment.

Now, SRP seeks additional time to complete its demonstration as a result of analytical limitations related to the size of the unit, drilling production rates in the dense Chinle geologic material, and corresponding length of time to complete hydraulic conductivity testing for very low permeability materials. The time frame requested aligns with SRP's best estimate of when the requisite analytical work will be completed following the completion of SRP's drilling program. In requesting this time extension, SRP respectfully reminds USEPA of its commitment that it "intends to take actions to ensure that any facility approved to conduct a demonstration has the same amount of time anticipated by the current regulation to initiate and complete the demonstration after an approval."⁴ Based on USEPA's statements in the preamble, USEPA contemplated that it would make determination on the applications by February 1, 2021, leaving facilities approximately 10 months to complete alternate liner demonstrations after USEPA's approval of the application.⁵ SRP seeks only until April 14, 2022.

Status of SRP's Field Investigation and Laboratory Work

Following the submittal its Application, SRP immediately began field work planning efforts by evaluating relevant historic information, discussing methods of drilling to accomplish the needs of the program specific to known site conditions, and assessing the capabilities and backlog of several geotechnical laboratories to appropriately plan project execution. The overall field work program, including laboratory testing, and associated modeling and reporting is estimated to cost SRP at least \$5M. Because of USEPA's unanticipated delay in approving the alternate liner demonstration application, SRP faced the difficult choice of proceeding with the field work at risk without the benefit of a decision from USEPA on whether SRP would even be permitted to make a demonstration. SRP decided to proceed with its field work primarily due to the size of the project and the lack of certainty that the drilling rigs needed to support the environmental investigations would be available at a later date.

One of the main complexities of this site and application of the Part B rule is the overall size of the impoundment, and the depth to the uppermost aquifer. The Evaporation Pond is a surface impoundment encompassing approximately 330 acres. The pond is constructed on the Chinle

³ Letter from SRP and the Arizona Electric Power Cooperative to Acting Assistant Administrator Barry Breen re: Coal Combustion Residuals (CCR) Part B Implementation; Pending applications from Salt River Project and Arizona Electric Power Cooperative dated July 16, 2021.

⁴ USEPA Website, "Information about the November 30, 2021 Deadline".

⁵ Part B final, pg. 72529.

Formation, which provides a natural geologic clay barrier underlying the impoundment that is 200 to 250 feet thick beneath the Evaporation Pond. The uppermost aquifer formation is situated at the base of this 200 to 250 thick clay barrier. Utilizing the presumed borehole and sample spacing of 200-feet surrounding the impoundment, SRP has identified the minimum number of boreholes to be at least 88, with the possibility of adding in supplemental boreholes if areas needing further evaluation are identified. The overall length of boreholes planned to be drilled exceeds 25,000 linear feet. In addition, the nature of the Chinle formation is generally dense and dry clayey materials, making drilling slow and difficult, leading to increases in the expected drill timing as well. All of these factors contribute to the reasonableness of the time frame need to expeditiously collect field samples.

The following sections provide the supporting documentation required by 40 CFR § 257.71(d)(2)(ii)(A) justifying the need for a timeline extension.

Timeline of Fieldwork

In accordance with 40 CFR § 257.71(d)(2)(ii)(A)(1), SRP has made appropriate and proactive efforts to collect and analyze its field samples expeditiously. As noted above, the size of the CCR unit and associated number of boreholes, depth of boreholes, and nature of the Chinle formation all result in an intensive field program intended to further confirm SRP's prior data and analysis demonstrating the protectiveness of the pond.

SRP has developed a timeline of activities to provide USEPA with an understanding of the actions taken by SRP to expedite the completion of this field work in advance of an approval of SRP's submitted application. This schedule is provided in Attachment B. To date, SRP has initiated or completed the following:

- Development of a preliminary field work plan prior to the expected Application approval. This work included evaluation of historic investigation work, planning borehole locations, evaluating concerns for drilling methods, and identifying prospective drillers. Another key component was consideration of overall program sequencing.
- Development of a detailed drilling specification in support of bidding and procurement of potential drilling contractors. This specification detailed proposed means and methods of drilling, sequencing, driller schedule, methods of sampling and in-situ testing, health and safety considerations, and other administrative information.
- Development of a comprehensive program plan consisting of the final proposed field program, environmental testing considerations, planned updates to the site conceptual model, details on planned modeling, and overall demonstration reporting needs.
- Procurement of drilling and field oversight services, including pre-bid meeting, responses to questions and comments from prospective drilling contractors, evaluation of submitted bids, negotiations with preferred driller, and awarding of contracts.
- Completion of survey layout of proposed borehole locations and utility clearance.
- Phase 1 of the drilling program focused on completion of full depth boreholes surrounding the entire impoundment at an interval of 1,000-foot totaling 18 boreholes. Eighteen in-situ packer tests were completed. Samples were obtained and shipped to

the applicable geotechnical laboratories to commence index testing and hydraulic conductivity testing.

- Environmental sampling of impoundment water has been completed.
- Phase 2 of the drilling program is actively being completed. This portion of the program will complete the 200-foot interval boreholes between the 1,000-foot boreholes completed in Phase 1.

Geotechnical Laboratory Hydraulic Conductivity Test Methods

As stated in the CCR Rule, any test for hydraulic conductivity relied upon must include, in addition to other relevant termination criteria specified by the method, criteria that equilibrium has been achieved within acceptable tolerance limits between inflow and outflow for both electrical conductivity and pH [40 CFR § 257.71(d)(1)(ii)(B)(4)]. These criteria are evaluated by the ASTM D7100 test method using permeant liquid consisting of water collected from the impoundment to evaluate potential long-term impacts of the water chemistry (pH and major ion composition on hydraulic conductivity). For low permeability materials of the Chinle Formation, it was originally estimated by the laboratory that such tests will require a minimum of about 3 months (up to 100 days) to produce sufficient volume of effluent permeant for electrical conductivity and pH testing, with longer test durations possible if needed to achieve equilibrium. However, after initiating the tests and observing the very slow effluent of water through the soil samples, the laboratory now estimates that these tests will take over 6 months (up to 200 days) to reach the relevant termination criteria.

Discussions with qualified laboratories indicated that the laboratory equipment required to run the extended ASTM D7100 tests has very limited availability. Given the time required to complete each D7100 test and the short timeframe allowed for this demonstration, it is not feasible to perform all the hydraulic testing for this investigation using that method for the over 80 hydraulic conductivity tests without needing to complete the tests in series, substantially lengthening the overall timeframe by several years. SRP is planning to complete ten (10) tests of the underlying soils utilizing the ASTM D7100 method, with nine of the those actively being run.

SRP is running a suite of tests using ASTM D7100 from initial samples collected during the investigation, with additional testing using ASTM D5084. ASTM D5084 does not require evaluation of the equilibrium criteria noted above and allows more tests to be completed during the investigation timeframe. ASTM D5084 typically use deionized or distilled water as the permeant, although a few samples are using impoundment water as permeant to support comparison with results obtained using ASTM D7100.⁶ The ASTM D5084 results will provide supplemental data for SRP's evaluation.

Initial findings for received laboratory hydraulic conductivity have been favorable, in line with expected results, and continue to show that the Evaporation Pond is a good candidate for alternate liner demonstration. For example, initial hydraulic conductivity tests conducted by method ASTM D5084 for samples spaced around entire perimeter of impoundment at approximate 1,000-foot intervals, range from 3.1E-07 cm/sec to 4.8E-10 cm/sec. The summary

⁶ The Part B CCR Rule Preamble [page 72523] indicates ASTM D6766 is an adequate test method for the alternate liner demonstration as well; however, procedure D6766 is used for geosynthetic liners. SRP has determined that test method D6766 does not apply to the testing of Chinle materials.

table below provides a status overview as of August 30, 2021 of planned hydraulic testing:

Test Type	Total Tests Planned	Tests Assigned	Tests Actively Running	Tests Completed
ASTM D7100	10	9	9	0
ASTM D5084	80	54	25	29

Outside Influences on Program Schedule

- COVID-19 Pandemic
 - To ensure the project management and drilling crew personal safety, special COVID-19 precautions were undertaken including adding contractor COVID-19 health and safety requirements to the contractors' job-specific, health and safety plans. In addition, SRP required completion of a daily health questionnaire and daily temperature checks prior to site entry
 - We also note the challenges faced during the COVID-19 pandemic that has impacted staffing availability, complications in communications, supply chain impacts, and overall health and safety of SRP's staff, consultants, contractors, and the community.
- Driller Staff Availability
 - SRP's drilling contractor has mobilized three (3) drill rigs to support the project. Contractor crews work three (3) weeks on, one (1) week off to support safe work objectives and to reduce down time of rigs. Furthermore, the drilling contractor is now able to increase productivity by adding two additional shifts of nighttime work which is expected to improve productivity by approximately 40%. We have encountered several staffing issues related to work VISAs and ability to mobilize some staff members from Canada. Managing staff health and safety to complete work activities in a manner where heat, fatigue, and other summertime conditions is of pivotal importance.
- Weather
 - Eastern Arizona is prone to summertime intense and unpredictable weather events. A combination of monsoon season, afternoon "pop-up" thunderstorms, and general hot weather reduce productivity. Crews regularly have to shut down work activities early to midafternoon due to lightning and heavy rain events.

SRP has demonstrated a robust level of activities already initiated and completed at financial risk to SRP due to USEPA's lack of a decision on the complete application submitted. Given the circumstances described above, SRP has clearly established that it has embarked on a timeline of fieldwork to collect samples as expeditiously as possible. Likewise, the requested length of extension is reasonable for the magnitude of this program.

Chains of Custody

In accordance with 40 CFR § 257.71(d)(2)(ii)(A)(2), laboratory chains of custody identifying when material samples were sent to the laboratory are provided in Attachment B. We note that future samples collected and shipped following the submittal of this extension request will be developed in a similar manner and upon request, provided to USEPA.

Laboratory Certifications

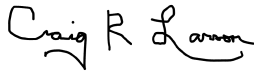
In accordance with 40 CFR § 257.71(d)(2)(ii)(A)(3), written certifications from the laboratory identifying how long it is projected for tests to reach the relevant termination criteria and ability to provide the associated reports are provided in Attachment C.

Progression Towards All Test Termination Metrics

In accordance with 40 CFR § 257.71(d)(2)(ii)(A)(4), we have developed summary tables for the both the D7100 and D5084 documenting test results status with projected termination dates in Attachments D-1 and D-2, respectively.

SRP appreciates the U.S. Environmental Protection Agency's consideration of this Request for an Extension to make an Alternate Liner Demonstration for the Evaporation Pond. Any questions regarding the contents of the Application may be directed to Andrea Martinez at 602-236-2618 or Andrea.Martinez@srpnet.com.

Sincerely,



Craig R. Larson
Director Coronado Generating Station

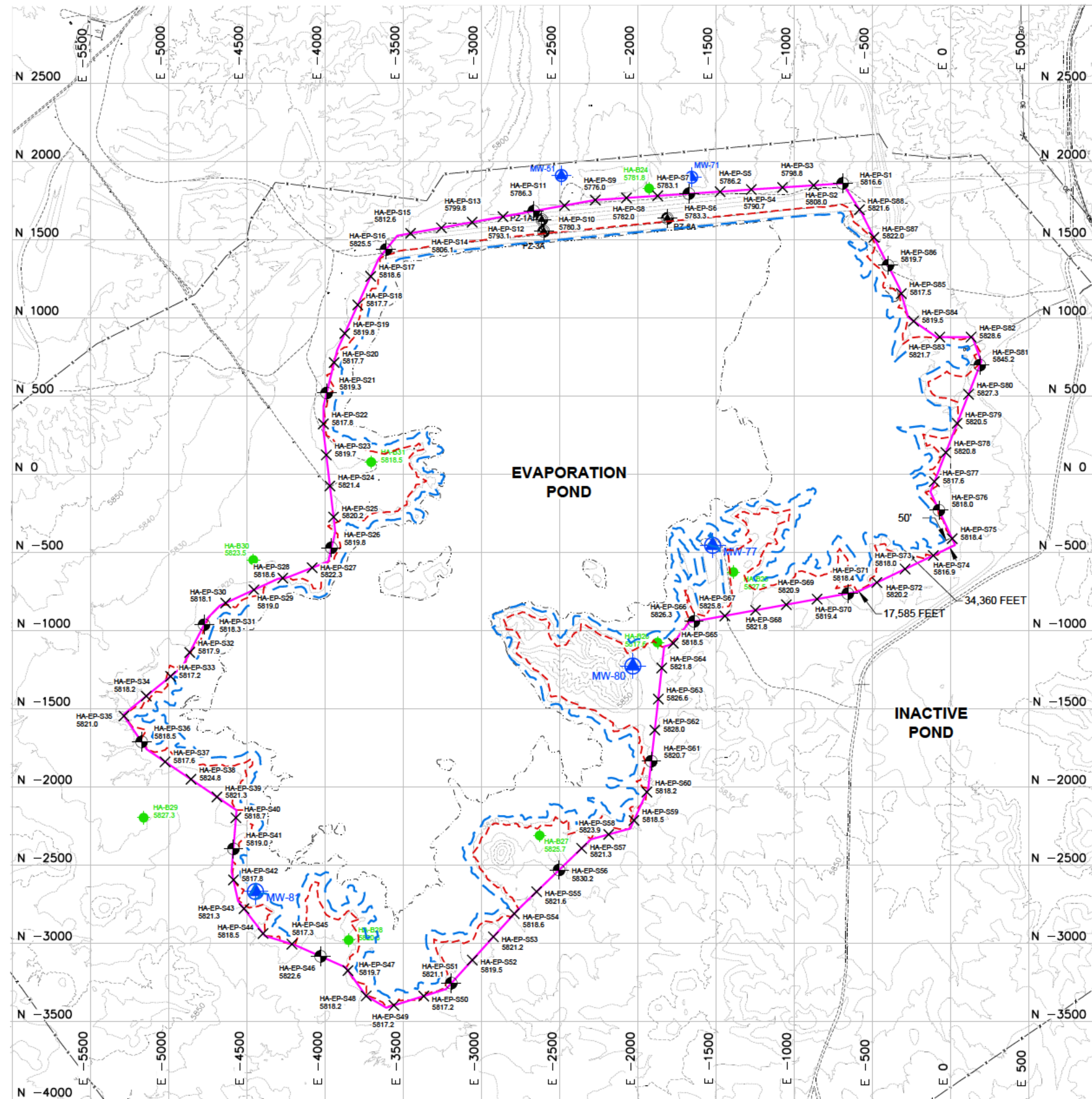
Enclosures:

Figure 1	Proposed Subsurface Exploration Location Plan
Attachment A	Alternate Liner Demonstration Schedule
Attachment B	Geotechnical Laboratory Chain of Custodies
Attachment B-1	GeoTesting Express, Inc. Laboratory Chain of Custodies
Attachment B-2	Ninyo & Moore, Inc. Laboratory Chain of Custodies
Attachment C	Laboratory Certifications
Attachment C-1	GeoTesting Express, Inc. Laboratory Certification
Attachment C-2	Ninyo & Moore, Inc. Laboratory Certification
Attachment D	Projected Hydraulic Conductivity Progress
Attachment D-1	ASTM D7100 Hydraulic Conductivity Samples Progress Summary
Attachment D-2	ASTM D5084 Hydraulic Conductivity Samples Progress Summary

References

1. United States Environmental Protection Agency. "Coal Combustion Residuals (CCR) Part B Implementation." USEPA, Environmental Protection Agency, 13 May 2021, [www.USEPA.gov/coalash/coal-combustion-residuals-ccr-part-b-implementation](http://www USEPA.gov/coalash/coal-combustion-residuals-ccr-part-b-implementation). (Accessed 12 August 2021)
2. United State Environmental Protection Agency. 40 CFR 257 [USEPA-HQ-OLEM-2019-0173; FRL-10015-88-OLEM] Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments. Final Rule. November 12, 2020.

FIGURES



LEGEND

- EXIST NG MAJOR CONTOUR
- EXIST NG MINOR CONTOUR
- APPROXIMATE LIMITS OF POND
- - - 50 FT POND OFFSET
- EXIST NG FENCE
- HA-B24 5781.8 DESIGNATION, LOCATION, AND GROUND SURFACE ELEVATION OF TEST BORINGS PERFORMED BY YELLOW JACKET DRILL NG SERVICES OF PHOENIX, ARIZONA DURING THE PERIOD 25 JULY 2016 TO 11 AUGUST 2016
- MW-71 EXIST NG MONITOR NG WELL LOCATIONS INSTALLED BY SALT RIVER PROJECT
- PZ-1A EXIST NG PIEZOMETERS INSTALLED BY SALT RIVER PROJECT
- HA-EP-S7 5817.5 PROPOSED PHASE 1 EXPLORATION LOCATION NAME AND SURFACE ELEVATION
- HA-EP-S7 5817.5 PROPOSED PHASE 2 EXPLORATION LOCATION NAME AND SURFACE ELEVATION

NOTES:

1. TOPOGRAPHY WAS PROVIDED BY SOUTHWEST SURVEYING AND MAPPING PARTNERS, LLC.; FLOWN ON 26 SEPTEMBER 2015.
 - a. HORIZONTAL CONTROL IS BASED ON PLANT DATUM.
 - b. VERTICAL CONTROL IS BASED ON NVGD29.
2. ELEVATIONS OF HALEY & ALDRICH 2016 TEST BORINGS INDICATED ON THIS DRAWING ARE IN FEET AND REFER TO NGVD29 DATUM.
3. LOCATIONS OF EXISTING MONITORING WELLS ARE APPROXIMATE.
4. TECHNICAL MONITORING OF TEST BOR NGs COMPLETED DURING THE PERIOD 25 JULY 2016 TO 11 AUGUST 2016 WAS PERFORMED BY HALEY & ALDRICH.
5. AS-DRILLED LOCATIONS OF TEST BOR NGs WERE DETERMINED IN THE FIELD BY SALT RIVER PROJECT BY OPTICAL SURVEY ON 16 AUGUST 2016.

**HALEY
ALDRICH**

SALT RIVER PROJECT
CORONADO GENERAT NG STATION
ST. JOHNS, ARIZONA

PROPOSED SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
MAY 2021

FIGURE 1

ATTACHMENT A



Delivering water and power™

ATTACHMENT B



Delivering water and power™

ATTACHMENT B-1
GeoTesting Express, Inc. Laboratory Chain of Custodies



Delivering water and power™

Company Name: Halcyon Aldrich				Analysis											
Address: 400 E Van Buren St. Suite 545 Phoenix, AZ 85004				Sample Type		Container Type									
Contact: Roger Wilcox e-mail: RWilcox@halcyonaldrich.com Phone Number: 585-435-7898 Fax Number:				1. Soil		1. Bucket									
				2. Geosynthetic		2. Bag									
				3. Rock		3. Jar									
				4. Concrete		4. Tube									
Project Name: CGS Evap Pond Drilling				5. Other		5. Roll									
Project Number: 135447-005															
Project Location: St. Johns, AZ															
Sample Identification		Container Size		Sampling Date		Sample Type								Comments	
HA-EP-S11 U-2c 60-62		30" 4				Soil									
HA-EP-S16 U-6: 118-120		30" 4				Soil									
HA-EP-S21 U-5c 206-209		30" 4				Soil									
Relinquished By: Ryan Hendrix				Date: 07/2/21		Received By: [Signature]				Date: 7/19/21				Turn-Around Time Requested:	
				Time: 12:00						Time: 10:40					
Relinquished By:				Date:		Received By:				Date:				No. of Business Days: _____	
				Time:						Time:					
Relinquished By:				Date:		Received By:				Date:				Special Instructions:	
				Time:						Time:					
SHIPPED VIA:															



CHAIN OF CUSTODY

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800-434-1062 Toll Free
978-635-0424 Phone
978-635-0266 Fax

Sales Order No.:

GTX No.:

Company Name: <i>Haley & Aldrich</i> Address: <i>400 E. Van Ruvan St. Suite 545 Phoenix, AZ 85004</i> Contact: <i>Roger Wilcox</i> e-mail: <i>RWilcox@haleyaldrich.com</i> Phone Number: <i>585-435-7898</i> Fax Number: Project Name: <i>CGS Evap Pond Drilling</i> Project Number: <i>135447-005</i> Project Location: <i>St. Johns, AZ</i>					Analysis <table border="1"> <tr> <th>Sample Type</th> <th>Container Type</th> <th colspan="8"></th> </tr> <tr> <td>1. Soil</td> <td>1. Bucket</td> <td colspan="8" rowspan="5"></td> </tr> <tr> <td>2. Geosynthetic</td> <td>2. Bag</td> </tr> <tr> <td>3. Rock</td> <td>3. Jar</td> </tr> <tr> <td>4. Concrete</td> <td>4. Tube</td> </tr> <tr> <td>5. Other</td> <td>5. Roll</td> </tr> </table>										Sample Type	Container Type									1. Soil	1. Bucket									2. Geosynthetic	2. Bag	3. Rock	3. Jar	4. Concrete	4. Tube	5. Other	5. Roll																																																																																																																																								
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HALEY & ALDRICH, INC.
GEOTESTING EXPRESS

135447-005
CORONADO GENERATING STATION
ST. JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S11	HA-EP-S16	HA-EP-S21			
SAMPLE NO.		U-2C	U-6	U-5A			
DEPTH		60.0-62.0	118.0-120.0	205.0-209.0			
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)							
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X			
Atterberg Limits	ASTM D 4318	X	X	X			
Water Content	ASTM D 2216	X	X	X			

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X			
confining pressure (psi)		51	70	70			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			
Hydraulic Conductivity - Compatability Test of Soils	ASTM D 7100	X	X	X			
confining pressure (psi)		51	70	70			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			

Notes



CHAIN OF CUSTODY

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800-434-1062 Toll Free
978-635-0424 Phone
978-635-0266 Fax

Sales Order No.:
GTX No.:

Company Name: Haley & Aldrich, Inc. Address: 400 E. Van Buren Street Suite 545, Phoenix, AZ 85004 Contact: Roger J. Wilcox, P.E. e-mail: RWilcox@haleyaldrich.com Phone Number: 585-321-4227 Fax Number: Project Name: Evap. Pond Alternate Liner Project Number: 135447-005 Project Location: Coronado Generating Station				Analysis <table border="1"> <tr> <th>Sample Type</th> <th>Container Type</th> <th colspan="8"></th> </tr> <tr> <td>1. Soil</td> <td>1. Bucket</td> <td colspan="8"></td> </tr> <tr> <td>2. Geosynthetic</td> <td>2. Bag</td> <td colspan="8"></td> </tr> <tr> <td>3. Rock</td> <td>3. Jar</td> <td colspan="8"></td> </tr> <tr> <td>4. Concrete</td> <td>4. Tube</td> <td colspan="8"></td> </tr> <tr> <td>5. Other</td> <td>5. Roll</td> <td colspan="8"></td> </tr> </table>										Sample Type	Container Type									1. Soil	1. Bucket									2. Geosynthetic	2. Bag									3. Rock	3. Jar									4. Concrete	4. Tube									5. Other	5. Roll								
Sample Type	Container Type																																																																								
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Sample Identification	Container Size	Type	Sampling Date	Time	Sample Type									Comments																																																											
S41-U-56-58.5	3" by 30"	tube			Soil																																																																				
S46-U-138-140	↓	↓			Soil																																																																				
S51-U-48-50	↓	↓			Soil																																																																				
Relinquished By:					Date:	Received By:					Date: 7/25/21	Turn-Around Time Requested:																																																													
Relinquished By:					Time:	[Signature]					Time: 11:20	No. of Business Days: _____																																																													
Relinquished By:					Date:	Received By:					Date:	Special Instructions:																																																													
Relinquished By:					Time:	Received By:					Time:																																																														
SHIPPED VIA:																																																																									

[illegible]

HALEY & ALDRICH, INC.
GEOTESTING EXPRESS

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S41	HA-EP-S46	HA-EP-S51			
SAMPLE NO.		S41-Ua-56-58.5	S46-U-138-140	S51-U-48-50			
DEPTH		56.0-58.5	138.0-140.0	48.0-50.0			
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)							
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X			
Atterberg Limits	ASTM D 4318	X	X	X			
Water Content	ASTM D 2216	X	X	X			

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X			
confining pressure (psi)		47	70	40.5			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			
Hydraulic Conductivity - Compatability Test of Soils	ASTM D 7100	X	X	X			
confining pressure (psi)		47	70	40.5			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			

Notes



CHAIN OF CUSTODY

GeoTesting Express, Inc.
125 Nagog Park
Acton, MA 01720
800-434-1062 Toll Free
978-635-0424 Phone
978-635-0266 Fax

Sales Order No.:
GTX No.:

Company Name: <i>Halcyon Aldrich</i>					Analysis										
Address: <i>400 E. Van Buren St. Suite 545 Phoenix, AZ 85004</i>					Sample Type	Container Type									
Contact: <i>Roger Wilcox</i> e-mail: <i>RWilcox@halcyonaldrich.com</i> Phone Number: <i>585-321-4227</i> Fax Number: Project Name: <i>Evap. Pond Alt. Liner Demo</i> Project Number: <i>135447-005</i> Project Location: <i>CGS St. Johns, AZ</i>					1. Soil	1. Bucket									
					2. Geosynthetic	2. Bag									
					3. Rock	3. Jar									
					4. Concrete	4. Tube									
					5. Other	5. Roll									
Sample Identification					Container Size	Type	Sampling Date	Time	Sample Type	Comments					
<i>S66-U-176-177.5</i>					<i>30"</i>	<i>4</i>			<i>Soil</i>						
<i>S76-U-56-59</i>					<i>30"</i>	<i>4</i>			<i>Soil</i>						
<i>S81-U-166-167.5</i>					<i>30"</i>	<i>4</i>			<i>Soil</i>						
Relinquished By:					Date:		Received By:			Date: <i>8/4/21</i>		Turn-Around Time Requested:			
					Time:		<i>Shawn Dunn</i>			Time: <i>11:45</i>					
Relinquished By:					Date:		Received By:			Date:		No. of Business Days: _____			
					Time:					Time:					
Relinquished By:					Date:		Received By:			Date:		Special Instructions:			
					Time:					Time:					
SHIPPED VIA:															

HALEY & ALDRICH, INC.
GEOTESTING EXPRESS

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S66	HA-EP-S76	HA-EP-S81			
SAMPLE NO.		S66-U-176-177.5	S76-U-56-59	S81-U-166-167.5			
DEPTH		176.0-177.5	56.0-59.0	166.0-167.5			
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)							
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X			
Atterberg Limits	ASTM D 4318	X	X	X			
Water Content	ASTM D 2216	X	X	X			

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X			
confining pressure (psi)		70	47.5	70			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			
Hydraulic Conductivity - Compatability Test of Soils	ASTM D 7100	X	X	X			
confining pressure (psi)		70	47.5	70			
permeant liquid		H&A Provided Pond Water	H&A Provided Pond Water	H&A Provided Pond Water			

Notes



CHAIN OF CUSTODY

GeoTesting Express, Inc.
 125 Nagog Park
 Acton, MA 01720
 800-434-1062 Toll Free
 978-635-0424 Phone
 978-635-0266 Fax

Sales Order No.:
 GTX No.:

Company Name: HALEY & ALDRICH Address: 400 E VAN BUREN ST, SUITE 545 PHOENIX, AZ 85002 Contact: ROGER WILCOX e-mail: RWILCOX@haleyaldrich.com Phone Number: 555 435-7898 Fax Number: Project Name: CGS LINER DEMONSTRATION Project Number: 135447 Project Location: ST. JOHNS, AZ					Analysis Sample Type Container Type 1. Soil 1. Bucket 2. Geosynthetic 2. Bag 3. Rock 3. Jar 4. Concrete 4. Tube 5. Other 5. Roll									
Sample Identification			Container Size Type		Sampling Date Time		Sample Type						Comments	
S31-Ua-170-173					8/26/21		SOIL							
POND SAMPLE Ep-1					8/14/21		WATER							
Relinquished By: [Signature] (CGS RECEIVING)					Date: 8/16/21 Time: 1000		Received By: [Signature]			Date: 8/20/21 Time: 11am		Turn-Around Time Requested:		
Relinquished By:					Date: Time:		Received By:			Date: Time:		No. of Business Days: _____		
Relinquished By:					Date: Time:		Received By:			Date: Time:		Special Instructions:		
SHIPPED VIA:														

HALEY & ALDRICH, INC.
GEOTESTING EXPRESS

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S31				
SAMPLE NO.		S31-Ua-170-173				
DEPTH		170.0-173.0				
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)						
Hydrometer & Sieve	ASTM D 421 & 422	X				
Atterberg Limits	ASTM D 4318	X				
Water Content	ASTM D 2216	X				

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X				
	confining pressure (psi)	70				
	permeant liquid	H&A Provided Pond Water				
Hydraulic Conductivity - Compatability Test of Soils	ASTM D 7100	X				
	confining pressure (psi)	70				
	permeant liquid	H&A Provided Pond Water				

Notes

ATTACHMENT B-2
Ninyo & Moore, Inc. Laboratory Chain of Custodies



Delivering water and power™

Samples Received by Ninyo & Moore, Inc. 6/25/2021



Delivering water and power™

Coronado Generating Station - Evaporation Pond
 135447-005
 Geotechnical Sample Transmittal - Chain of Custody
 Samples Transmitted by Haley & Aldrich, Inc.
 Samples Received by Ninyo & Moore, Inc.

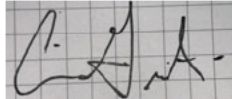
HA-EP-501			
Sample ID	Sample Type	Sample Depth (ft BGS)	Recovery (in)
S-1	INDEX	10	NA
S-2	INDEX	32	NA
S-3	INDEX	40	NA
S-4	INDEX	50	NA
S-5	INDEX	80	NA
S-6	INDEX	90	NA
S-7	INDEX	120	NA
S-8	INDEX	130	NA
S-9	INDEX	150	NA
S-10	INDEX	160	NA
S-11	INDEX	175	NA
S-12	INDEX	190	NA
S-13	INDEX	200	NA
S-14	INDEX	205	NA
S-15	INDEX	110	NA

HA-EP-506			
Sample ID	Sample Type	Sample Depth (ft BGS)	Recovery (in)
S-1	INDEX	10	NA
S-2	INDEX	30	NA
S-3	INDEX	50	NA
S-4	INDEX	60	NA
S-5	INDEX	80	NA
S-6	INDEX	90	NA
S-7	INDEX	110	NA
S-8	INDEX	120	NA
S-9	INDEX	140	NA
S-10	INDEX	150	NA
S-11	INDEX	170	NA
S-12	INDEX	185	NA
S-13	INDEX	209	NA
S-14	INDEX	260	NA
S-15	INDEX	290	NA

HA-EP-516			
Sample ID	Sample Type	Sample Depth (ft BGS)	Recovery (in)
S-1	INDEX	10	N/A
S-2	INDEX	35	N/A
S-3	INDEX	49	N/A
S-4	INDEX	75	N/A
M-1	MOD. CAL	76-77.5	12
S-5	INDEX	92	N/A
S-6	INDEX	115	N/A
S-7	INDEX	130	N/A
S-8	INDEX	135	N/A
S-9	INDEX	170	N/A
S-10	INDEX	195	N/A
S-11	INDEX	211	N/A
S-12	INDEX	230	N/A

HA-EP-521			
Sample ID	Sample Type	Sample Depth (ft BGS)	Recovery (in)
S-1	INDEX	20	NA
S-2	INDEX	44.5	NA
S-3	INDEX	60	NA
S-4	INDEX	85	NA
S-5	INDEX	100	NA
S-6	INDEX	125	NA
S5-1	MOD. CAL	132	3
S-7	INDEX	140	NA
S-8	INDEX	165	NA
S-9	INDEX	180	NA
S-10	INDEX	205	NA
S-11	INDEX	220	NA
S-12	INDEX	240	NA
S-13	INDEX	326	NA

All samples listed above
transmitted to Laboratory



Colin Giusti

Haley & Aldrich Field Staff

6/25/2021

Date transmitted

All Samples listed above
received by laboratory



Ninyo & Moore Laboratory Manager

06.25.2021

Date Received

Samples Received by Ninyo & Moore, Inc. 7/6/2021



Delivering water and power™

TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S6	HA-EP-S6	HA-EP-S11	HA-EP-S11	HA-EP-S-16	HA-EP-S16	HA-EP-S16	HA-EP-S21	HA-EP-S26	HA-EP-S31
SAMPLE NO.	U-1	U-3	U-1A	U-3B	U-1	U-3	U-9	U-2A	S26-UA-41-43	S31-UA-66-69
DEPTH	121.0-124.0	151.0-153.0	21.0-23.5	108.0-110.0	36.0-38.0	77.5-79.5	196.0-198.0	86.0-89.0	41.0-43.0	66.0-69.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422									
Atterberg Limits	ASTM D 4318									
Water Content	ASTM D 2216									

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X	X	X	X	X	X	X	X
confining pressure (psi)		103	128	17.5	112	30.5	112	166	73	35	56
permeant liquid		Tap Water	Tap Water	H&A Provided Pond Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	H&A Provided Pond Water

Notes

All samples in the attached assignment sheets
transmitted to laboratory



Kayla Ahrens

Haley & Aldrich Field Staff

7/1/2021

Date Transmitted

All samples in the attached assignment sheets
received by laboratory



Ninyo & Moore Laboratory Manager

07.06.2021

Date Received

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11	HA-EP-S11
SAMPLE NO.		S-1	S-2	S-3	S-4	S-5	HA-EP-S11-G-115	HA-EP-S11-G-130	HA-EP-S11-G-141	HA-EP-S11-G-160
DEPTH		20.0	40.0	56.0	70.0	85.0	115.0	130.0	141.0	160.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	HOLD	X	HOLD	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X		X		X	X	X	X
Water Content	ASTM D 2216	X	X		X		X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S11								
SAMPLE NO.		HA-EP-S11-G-180								
DEPTH		180.0								
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X								
Atterberg Limits	ASTM D 4318	X								
Water Content	ASTM D 2216	X								

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26
SAMPLE NO.		S26-G-30	S26-G-40	S26-SS-45	S26-G-75	S26-G-95	S26-G-110	S26-G-130	S26-G-145	S26-G-170
DEPTH		30.0	40.0	45.0	75.0	95.0	110.0	130.0	145.0	170.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	HOLD	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X		X	X	X	X	X	X
Water Content	ASTM D 2216	X	X		X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S26	HA-EP-S26	HA-EP-S26	HA-EP-S26					
SAMPLE NO.		S26-G-195	S26-G-210	S26-G-230	S26-G-245					
DEPTH		95.0	210.0	230.0	245.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

1. Samples S26-G-230 and S26-G-245 may be rock, notify H&A if the material for these samples is not testable.

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31	HA-EP-S31
SAMPLE NO.		S31-G-20	S31-G-42	S31-G-60	S31-G-72	S31-G-100	S31-G-122	S31-G-140	S31-G-160	S31-G-169
DEPTH		20.0	42.0	60.0	72.0	100.0	122.0	140.0	160.0	169.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S31	HA-EP-S31	HA-EP-S31						
SAMPLE NO.		S31-G-200	S31-G-219	S31-G-240						
DEPTH		200.0	219.0	240.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36
SAMPLE NO.		S36-G-10	S36-G-25	S36-SS-36	S36-G-50	S36-G-61	S36-G-75	S36-G-90	S36-G-110	S36-G-125
DEPTH		10.0	25.0	36.0	50.0	61.0	75.0	90.0	110.0	125.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	HOLD	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X		X	X	X	X	X	X
Water Content	ASTM D 2216	X	X		X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36	HA-EP-S36			
SAMPLE NO.	S36-G-150	S36-Ssa-176	S36-Ssa-176.5	S36-Ssa-177	S36-G-190	S36-G-225			
DEPTH	150.0	176.0	176.5	177.0	190.0	225.0			
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)									
Hydrometer & Sieve	ASTM D 421 & 422	X	HOLD	HOLD	HOLD	X	X		
Atterberg Limits	ASTM D 4318	X				X	X		
Water Content	ASTM D 2216	X				X	X		

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084								
confining pressure									

Notes

1. Sample S36-G-225 may be rock, notify H&A if the material for this sample is not testable.

Samples Received by Ninyo & Moore, Inc. 7/21/2021



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TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S36	HA-EP-S41	HA-EP-S46	HA-EP-S51	HA-EP-S56	HA-EP-S61				
SAMPLE NO.	S36-U1-41-43	S41-Ua-96-98	S46-U-186-188	S51-U-96-98	S56-U-134-136	S61-U-106-108.5				
DEPTH	41.0-43.0	96.0-98.0	186.0-188.0	96.0-98.0	134.0-136.0	106.0-108.5				
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)					Not Testable					
Hydrometer & Sieve	ASTM D 421 & 422									
Atterberg Limits	ASTM D 4318									
Water Content	ASTM D 2216									

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X	X	X	X			
confining pressure (psi)	35	81	120	81	113.5	90				
permeant liquid	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water				

Notes

All samples in the attached assignment sheets
transmitted laboratory



Kayla Ahrens

7/20/2021

Haley & Aldrich Field Staff

Date Transmitted

All samples in the attached assignment sheets
received by laboratory



Ninny & Moore Laboratory Manager

07.21.2021

Date Received

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41	HA-EP-S41
SAMPLE NO.		S41-G-50	S41-G-90	S41-G-100	S41-G-130	S41-G-140	S41-G-170	S41-G-180	S41-G-200	S41-G-210
DEPTH		50.0	90.0	100.0	130.0	140.0	170.0	180.0	200.0	210.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S41								
SAMPLE NO.		S41-G-240								
DEPTH		240.0								
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X								
Atterberg Limits	ASTM D 4318	X								
Water Content	ASTM D 2216	X								

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46	HA-EP-S46
SAMPLE NO.		S46-G-50	S46-G-70	S46-G-85	S46-G-110	S46-G-137	S46-G-150	S46-G-170	S46-G-185	S46-G-210
DEPTH		50.0	70.0	85.0	110.0	137.0	150.0	170.0	185.0	210.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S46	HA-EP-S46							
SAMPLE NO.		S46-G-230	S46-G-250							
DEPTH		230.0	250.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51	HA-EP-S51
SAMPLE NO.		S51-G-75	S51-G-95	S51-G-115	S51-G-135	S51-G-145	S1-G-175	S1-G-196	S1-G-215	S1-G-245
DEPTH		75.0	95.0	115.0	135.0	145.0	175.0	196.0	215.0	245.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)									Not Testable	
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56	HA-EP-S56
SAMPLE NO.		S56-G-30	S56-G-65	S56-G-80	S56-G-105	S56-G-133	S56-G-155	S56-G-185	S56-G-205	S56-G-245
DEPTH		30.0-31.0	65.0-66.0	80.0-81.0	105.0-106.0	133.0-134.0	155.0-156.0	185.0-186.0	205.0-206.0	245.0-246.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S56	HA-EP-S56	HA-EP-S56						
SAMPLE NO.		S56-G-271	S56-G-290	S56-G-305						
DEPTH		271.0-272.0	290.0-291.0	305.0-306.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61	HA-EP-S61
SAMPLE NO.		S61-G-30	S61-G-75	S61-G-90	S61-G-125	S61-G-153	S61-G-175	S61-G-210	S61-G-225	S61-G-269
DEPTH		30.0	75.0	90.0	125.0	153.0	175.0	210.0	225.0	269.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
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135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S61								
SAMPLE NO.		S61-G-299								
DEPTH		299.0								
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X								
Atterberg Limits	ASTM D 4318	X								
Water Content	ASTM D 2216	X								

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66
SAMPLE NO.		S66-G-5	S66-G-35	S66-G-46	S66-G-95	S66-G-100	S66-G-140	S66-G-152	S66-G-176	S66-G-206
DEPTH		5.0	35.0	46.0	95.0	100.0	140.0	152.0	176.0	206.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
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135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S66	HA-EP-S66	HA-EP-S66	HA-EP-S66					
SAMPLE NO.		S66-G-216	S66-G-250	S66-G-259	S66-G-275					
DEPTH		216.0	250.0	259.0	275.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HOLD SAMPLES FOR FUTURE ASSIGNMENT

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S36	HA-EP-S46	HA-EP-S56							
SAMPLE NO.	S36-Ssa-176	S46-SS-36	S56-SS-68							
DEPTH	176.0-165.5	36.0-37.5	68.0-69.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422									
Atterberg Limits	ASTM D 4318									
Water Content	ASTM D 2216									

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure (psi)										
permeant liquid										

Notes

Samples Received by Ninyo & Moore, Inc. 7/28/2021



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TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S66	HA-EP-66	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S76	HA-EP-S76	HA-EP-S81	HA-EP-S81	HA-EP-S86
SAMPLE NO.	S66-U-151-152	S66-U-216-217.5	S71-U-36-38	S71-U-96-98	S71-U-216-218	S76-U-101-103	S76-U-247-249.5	S81-U-61-63.5	S81-U-266-268	S86-U-86-88
DEPTH	151.0-152	216.0-217.5	36.0-38.0	98.0-98.0	216.0-218.0	101.0-103.0	247.0-249.5	61.0-63.5	266.0-268.0	86.0-88.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422									
Atterberg Limits	ASTM D 4318									
Water Content	ASTM D 2216									

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X	X	X	X	X	X	X
confining pressure (psi)		120	120	30.5	81	120	85.5	120	51.5	120
permeant liquid		Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water

Notes

All samples in the attached assignment
sheets transmitted to laboratory



Kayla Ahrens

7/28/2021

Haley & Aldrich Field Staff

Date Transmitted

All samples in the attached assignment sheets
transmitted to laboratory



Ninyo & Moore Laboratory Manager

07.28.2021

Date Received

TEST ASSIGNMENT SHEET

EXPLORATION NO.	HE-EP-S61	HA-EP-S36									
SAMPLE NO.	S61-U-31-33	S36-Ua-67-69									
DEPTH	31.0-33.0	67.0-69.0									
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)											
Hydrometer & Sieve	ASTM D 421 & 422										
Atterberg Limits	ASTM D 4318										
Water Content	ASTM D 2216										

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X								
confining pressure (psi)		26	57								
permeant liquid		Tap Water	Tap Water								

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71	HA-EP-S71
SAMPLE NO.		S71-G-30	S71-G-35	S71-G-75	S71-G-95	S71-G-125	S71-G-155	S71-G-175	S71-G-215	S71-G-224
DEPTH		30.0-31.0	35.0-36.0	75.0-76.0	95.0-96.0	125.0-126.0	155.0-156.0	175.0-176.0	215.0-216.0	224.0-225.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S71	HA-EP-S71	HA-EP-S71						
SAMPLE NO.		S71-G-237.5	S71-G-262	S71-G-275						
DEPTH		237.5-239.0	262.0-263.0	275.0-276.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76	HA-EP-76
SAMPLE NO.		S76-G-29	S76-G-50	S76-G-80	S76-G-100	S76-G-130	S76-G-147	S76-G-180	S76-G-198	S76-G-230
DEPTH		29.0	50.0	80.0	100.0	130.0	147.0	180.0	198.0	230.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-76	HA-EP-76							
SAMPLE NO.		S76-G-250	S76-G-280							
DEPTH		250.0	280.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81
SAMPLE NO.		S81-G-30	S81-G-61	S81-G-80	S81-G-110	S81-G-130	S81-G-160	S81-G-180	S81-G-210	S81-G-230
DEPTH		30.0	61.0	80.0	110.0	130.0	160.0	180.0	210.0	230.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81	HA-EP-S81				
SAMPLE NO.		S81-G-233	S81-G-260	S81-G-265	S81-G-280	S81-G-305				
DEPTH		233.0	260.0	265.0	280.0	305.0				
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X				
Atterberg Limits	ASTM D 4318	X	X	X	X	X				
Water Content	ASTM D 2216	X	X	X	X	X				

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86	HA-EP-S86
SAMPLE NO.		S86-G-25	S86-G-45	S86-G-70	S86-G-85	S86-G-125	S86-G-150	S86-G-165	S86-G190	S86-G-205
DEPTH		25.0-26.0	45.0-46.0	70.0-71.0	85.0-86.0	125.0-126.0	150.0-151.0	165.0-166.0	190.0-191.0	205.0-206.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S86	HA-EP-S86	HA-EP-S86						
SAMPLE NO.		S-86-G-230	S86-G-254	S86-G-266.5						
DEPTH		230.0-231.0	254.0-255.0	266.5-267.5						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

Samples Received by Ninyo & Moore, Inc. 8/10/2021



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TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S28	HA-EP-S29	HA-EP-S30	HA-EP-S32	HA-EP-S32	HA-EP-S37	HA-EP-S38	HA-EP-S39	HA-EP-S27	HA-EP-S34
SAMPLE NO.	S28-U-10-12	S29-U-146-148	S30-U-86-88	S32-U-78-80	S32-U-116-118	S37-U-76-78	S38-U-30-32	S39-U-16-18	S27-U-71-73	S34-U-81.5-83.5
DEPTH	10.0-12.0	146.0-148.0	86.0-88.0	78.0-80.0	116.0-118.0	76.0-78.0	30.0-32.0	16.0-18.0	71.0-73.0	81.5-83.5
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422									
Atterberg Limits	ASTM D 4318									
Water Content	ASTM D 2216									

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X	X	X	X	X	X	X	X
confining pressure (psi)		8.5	120	73	66	98	64.5	25.5	13.5	60	69
permeant liquid		Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water	Tap Water

Notes

All samples in the attached assignment sheets
transmitted to laboratory



Kayla Ahrens

Haley & Aldrich Field Staff

8/9/2021

Date Transmitted

All samples in the attached assignment sheets
received by laboratory



Ninny & Moore Laboratory Manager

08.10.2021

Date Received

TEST ASSIGNMENT SHEET

EXPLORATION NO.	HA-EP-S40										
SAMPLE NO.	U-116-118										
DEPTH	116.0-118.0										
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)											
Hydrometer & Sieve	ASTM D 421 & 422										
Atterberg Limits	ASTM D 4318										
Water Content	ASTM D 2216										

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X									
confining pressure (psi)		98									
permeant liquid		Tap Water									

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27
SAMPLE NO.		S27-G-38	S27-G-46	S27-G-60.5	S27-G-77	S27-G-80	S27-G-100	S27-G-120	S27-G-140	S27-G-160
DEPTH		38.0	46.0	60.5	77.0	80.0	100.0	120.0	140.0	160.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S27	HA-EP-S27	HA-EP-S27	HA-EP-S27					
SAMPLE NO.		S27-G-180	S27-G-200	S27-G-224	S27-G-264					
DEPTH		180.0	200.0	224.0	264.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28	HA-EP-S28
SAMPLE NO.		S28-G-30	S28-G-50	S28-G-67	S28-G-90	S28-G-110	S28-G-130	S28-G-150	S28-G-170	S28-G-190
DEPTH		30.0	50.0	67.0	90.0	110.0	130.0	150.0	170.0	190.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S28	HA-EP-S28	HA-EP-S28						
SAMPLE NO.		S28-G-210	S28-G-234	S28-G-253						
DEPTH		210.0	234.0	253.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29
SAMPLE NO.		S29-G-20	S29-G-40	S29-G-50	S29-G-60	S29-G-80	S29-G-100	S29-G-120	S29-G-145	S29-G-160
DEPTH		20.0	40.0	50.0	60.0	80.0	100.0	120.0	145.0	160.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S29	HA-EP-S29	HA-EP-S29	HA-EP-S29					
SAMPLE NO.		S29-G-180	S29-G-200	S29-G-220	S29-G-240					
DEPTH		180.0	200.0	200.0	240.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30	HA-EP-S30
SAMPLE NO.		S30-G-10	S30-G-30	S30-G-50	S30-G-70	S30-G-85	S30-G-110	S30-G-130	S30-G-150	S30-G-170
DEPTH		10.0	30.0	50.0	70.0	85.0	110.0	130.0	150.0	170.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S30	HA-EP-S30	HA-EP-S30						
SAMPLE NO.		S30-G-190	S30-G-210	S30-G-230						
DEPTH		190.0	210.0	230.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32
SAMPLE NO.		S32-G-10	S32-G-30	S32-G-50	S32-G-70	S32-G-80	S32-G-96	S32-G-100	S32-G-118	S32-G-150
DEPTH		10.0	30.0	50.0	70.0	80.0	96.0	100.0	118.0	150.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S32	HA-EP-S32	HA-EP-S32	HA-EP-S32					
SAMPLE NO.		S32-G-175	S32-G-190	S32-G-210	S32-G-240					
DEPTH		175.0	190.0	210.0	240.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33
SAMPLE NO.		S33-G-10	S33-G-30	S33-G-45	S33-G-60	S33-G-75	S33-G-105	S33-G-125	S33-G-145	S33-G-165
DEPTH		10.0	30.0	45.0	60.0	75.0	105.0	125.0	145.0	165.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S33	HA-EP-S33	HA-EP-S33	HA-EP-S33					
SAMPLE NO.		S33-G-185	S33-G-205	S33-G-222	S33-G-265					
DEPTH		185.0	205.0	222.0	265.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)					Not Testable					
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34	HA-EP-S34
SAMPLE NO.		S34-G-10	S34-G-30	S34-G-36	S34-G-70	S34-G-90	S34-G-110	S34-G-130	S34-G-150	S34-G-170
DEPTH		10.0	30.0	36.0	70.0	90.0	110.0	130.0	150.0	170.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S34	HA-EP-S34	HA-EP-S34						
SAMPLE NO.		S34-G-190	S34-G-210	S34-G-230						
DEPTH		190.0	210.0	230.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37
SAMPLE NO.		S37-G-34	S37-G-45	S37-G-54	S37-G-60	S37-G-90	S37-G-104	S37-G-112	S37-G-120	S37-G-134
DEPTH		34.0-34.5	45.0-45.5	54.0-54.5	60.0-60.5	90.0-90.5	104.0-104.5	112.0-112.5	120.0-120.5	134.0-134.5
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S37	HA-EP-S37	HA-EP-S37	HA-EP-S37					
SAMPLE NO.		S37-G-152	S37-G-181.5	S37-G-195	S37-G-212					
DEPTH		152.0-152.5	181.5-182.0	195.0-195.5	212.0-212.5					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38	HA-EP-S38
SAMPLE NO.		S38-G-20	S38-G-40	S38-G-43	S38-G-80	S38-G-100	S38-G-120	S38-G-140	S38-G-158	S38-G-180
DEPTH		20.0-20.5	40.0-40.5	43.0-43.5	80.0-80.5	100.0-100.5	120.0-120.5	140.0-140.5	158.0-158.5	180.0-180.5
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S38	HA-EP-S38							
SAMPLE NO.		S38-G-198	S38-G-220							
DEPTH		198.0-198.5	220.0-220.5							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39
SAMPLE NO.		S39-G-6	S39-G-25	S39-G-45	S39-G-65	S39-G-67	S39-G-88	S39-G-104	S39-G-125	S39-G-145
DEPTH		6.0-6.5	25.0-25.5	45.0-45.5	65.0-65.5	67.0-67.5	88.0-88.5	104.0-104.5	125.0-125.5	145.0-145.5
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S39	HA-EP-S39	HA-EP-S39	HA-EP-S39					
SAMPLE NO.		S39-G-173	S39-G-182.5	S39-G-205	S39-G-224					
DEPTH		173.0-173.5	182.5-183.0	205.0-205.5	224.0-224.5					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40	HA-EP-S40
SAMPLE NO.		S40-G-10	S40-G-30	S40-G-50	S40-G-70	S40-G-90	S40-G-115	S40-G-130	S40-G-150	S40-G-170
DEPTH		10.0-10.5	30.0-30.5	50.0-50.5	70.0-70.5	90.0-90.5	115.0-115.5	130.0-130.5	150.0-150.5	170.0-170.5
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S40	HA-EP-S40	HA-EP-S40						
SAMPLE NO.		S40-G-190	S40-G-200	S40-G-285						
DEPTH		190.0-190.5	200.0-200.5	285.0-285.5						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						
Other										
Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

Samples Received by Ninyo & Moore, Inc. 8/18/2021



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HALEY & ALDRICH, INC.
NINYO & MOORE

135447-005
CORONADO GENERATING STATION
ST JOHNS, ARIZONA

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20
SAMPLE NO.		S20-G-10	S20-G-18	S20-G-32	S20-G-50	S20-G-70	S20-G-90	S20-G-110	S20-G-130	S20-G-150
DEPTH		10.0	18.0	32.0	50.0	70.0	90.0	110.0	130.0	150.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

All Samples in the attached assignment sheets
transmitted to Laboratory



Kayla Ahrens

Haley & Aldrich Field Staff

8/18/2021

Date Transmitted

All samples in the attached assignment sheets
received by Laboratory



Ninyo & Moore Laboratory Manager

08/18/2021

Date Received

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-20	HA-EP-20	HA-EP-20	HA-EP-20					
SAMPLE NO.		S20-G-170	S20-G-190	S20-G-208	S20-G-232					
DEPTH		170.0	190.0	208.0	232.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25
SAMPLE NO.		S25-G-40	S25-G-42	S25-G-60	S25-G-81	S25-G-100	S25-G-120	S25-G-140	S25-G-160	S25-G-180
DEPTH		40.0	42.0	60.0	81.0	100.0	120.0	140.0	160.0	180.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S25	HA-EP-S25	HA-EP-S25	HA-EP-S25					
SAMPLE NO.		S25-G-200	S25-G-220	S25-G-240	S25-G-261					
DEPTH		200.0	220.0	240.0	261.0					
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X					
Atterberg Limits	ASTM D 4318	X	X	X	X					
Water Content	ASTM D 2216	X	X	X	X					

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35	HA-EP-S35
SAMPLE NO.		S35-G-5	S35-G-25	S35-G-45	S35-G-58	S35-G-85	S35-G-105	S35-G-125	S35-G-145	S35-G-165
DEPTH		5.0	25.0	45.0	58.0	85.0	105.0	125.0	145.0	165.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S35	HA-EP-S35							
SAMPLE NO.		S35-G-185	S35-G-230							
DEPTH		185.0	230.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42	HA-EP-S42
SAMPLE NO.		S42-G-5	S42-G-23	S42-G-50	S42-G-65	S42-G-85	S42-G-105	S42-G-125	S42-G-145	S42-G-165
DEPTH		5.0	23.0	50.0	65.0	85.0	105.0	125.0	145.0	165.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S42	HA-EP-S42	HA-EP-S42						
SAMPLE NO.		S42-G-185	S42-G-205	S42-G-225						
DEPTH		185.0	205.0	225.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43	HA-EP-43
SAMPLE NO.		S43-G-25	S43-G-40	S43-G-60	S43-G-80	S43-G-100	S43-G-120	S43-G-140	S43-G-160	S43-G-180
DEPTH		25.0	40.0	60.0	80.0	100.0	120.0	140.0	160.0	180.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-43	HA-EP-43							
SAMPLE NO.		S43-G-200	S43-G-215							
DEPTH		200.0	215.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44	HA-EP-S44
SAMPLE NO.		S44-G-10	S44-G-30	S44-G-36	S44-G-50	S44-G-70	S44-G-90	S44-G-110	S44-G-130	S44-G-150
DEPTH		10.0	30.0	36.0	50.0	70.0	90.0	110.0	130.0	150.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S44	HA-EP-S44							
SAMPLE NO.		S44-G-170	S44-G-190							
DEPTH		170.0	190.0							
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X							
Atterberg Limits	ASTM D 4318	X	X							
Water Content	ASTM D 2216	X	X							

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87	HA-EP-S87
SAMPLE NO.		S87-G-20	S87-G-40	S87-G-60	S87-G-82	S87-G-100	S87-G-120	S87-G-140	S87-G-160	S87-G-184
DEPTH		20.0	40.0	60.0	82.0	100.0	120.0	140.0	160.0	184.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S87	HA-EP-S87	HA-EP-S87						
SAMPLE NO.		S87-G-194	S87-G-220	S87-G-250						
DEPTH		194.0	220.0	250.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88	HA-EP-S88
SAMPLE NO.		S88-G-30	S88-G-50	S88-G-70	S88-G-94	S88-G-110	S88-G-130	S88-G-150	S88-G-170	S87-G-194
DEPTH		30.0	50.0	70.0	94.0	110.0	130.0	150.0	170.0	194.0
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X	X	X	X	X	X	X
Atterberg Limits	ASTM D 4318	X	X	X	X	X	X	X	X	X
Water Content	ASTM D 2216	X	X	X	X	X	X	X	X	X

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S88	HA-EP-S88	HA-EP-S88						
SAMPLE NO.		S-88-G-206.5	S88-G-210	S88-G-232						
DEPTH		206.5	210.0	232.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)										
Hydrometer & Sieve	ASTM D 421 & 422	X	X	X						
Atterberg Limits	ASTM D 4318	X	X	X						
Water Content	ASTM D 2216	X	X	X						

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084									
confining pressure										

Notes

TEST ASSIGNMENT SHEET

EXPLORATION NO.		HA-EP-S20	HA-EP-S35	HA-EP-S43	HA-EP-S88						
SAMPLE NO.		S20-U-206-208	S35-U-56-58	S43-U-20-22	S88-U-140-142						
DEPTH		206.0-208.0	56.0-58.0	20.0-22.0	140.0-142.0						
CONTAMINANTS (Y/N) (Please explain contaminants on "Memo to Lab" page.)											
Hydrometer & Sieve	ASTM D 421 & 422										
Atterberg Limits	ASTM D 4318										
Water Content	ASTM D 2216										

Other

Hydraulic Conductivity - Flexible Wall Permeameter	ASTM D 5084	X	X	X	X						
confining pressure (psi)		120	47	17	118.5						
permeant liquid		Tap Water	Tap Water	Tap Water	Tap Water						

Notes

ATTACHMENT C



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ATTACHMENT C-1
GeoTesting Express, Inc. Laboratory Certifications



Delivering water and power™

30 August 2021

SUBJECT: Laboratory Certification in Support of the
Alternate Liner Demonstration for CCR Surface Impoundment Extension of Deadline for
Demonstration Submission Due to Analytical Limitations
Evaporation Pond
Coronado Generating Station – St. Johns, Arizona
Salt River Project Agricultural Improvement and Power District

In accordance with 40 C.F.R. 257.71(d)(2)(ii)(A)(3), I hereby certify that the following laboratory tests are projected to reach relevant termination criteria related to their associated solution chemistry at the dates listed below. These estimated termination dates have been projected based on initial testing data and typical test durations for similar test specimens and parameters, which indicated that up to 28 weeks may be required for the tests to be completed from the date that they are started. This testing duration is based on the low permeability nature of the specimens and need to reach the ASTM specific termination criteria.

Laboratory Test: ASTM D7100 Standard Test Method for Hydraulic Conductivity Compatibility Testing of Soils with Aqueous Solutions Tests.

Sample Location	Sample No.	Test Status	Start Date	Completion Date
HA-EP-S11	U-2C	Actively Running	8/13/2021	2/1/2022*
HA-EP-S16	U-6	Actively Running	8/13/2021	2/1/2022*
HA-EP-S21	U-5A	Actively Running	8/13/2021	2/1/2022*
HA-EP-S41	S41-Ua-56-58.5	Actively Running	8/16/2021	2/1/2022*
HA-EP-S46	S46-U-138-140	Actively Running	8/30/2021	2/11/2022*
HA-EP-S51	S51-U-48-50	Actively Running	8/16/2021	2/1/2022*
HA-EP-S66	S66-U-176-177.5	Actively Running	8/27/2021	2/11/2022*
HA-EP-S76	S76-U-56-59	Actively Running	8/27/2021	2/11/2022*
HA-EP-S81	S81-U-166-167.5	Actively Running	8/16/2021	2/1/2022*
HA-EP-S31	S31-Ua-170-173	Not received	9/7/2021**	2/28/2022*

*Date represents forecasted estimation

**Estimated start date

This certification is provided for the sole purpose of meeting the requirements 40 C.F.R. 257.71(d)(2)(ii)(A) and is not a contractual commitment that testing will be initiated or completed by the date certified.

Signed: 

Print Name: Jon Campbell



Company Name: Geotesting Express

Title: Lab Manager

Date: 08/30/21

ATTACHMENT C-2
Ninyo & Moore, Inc. Laboratory Certifications



Delivering water and power™

August 30, 2021



SUBJECT: Laboratory Certification in Support of the
Alternate Liner Demonstration for CCR Surface Impoundment Extension of Deadline for
Demonstration Submission Due to Analytical Limitations
Evaporation Pond
Coronado Generating Station – St. Johns, Arizona
Salt River Project Agricultural Improvement and Power District

In accordance with 40 C.F.R. 257.71(d)(2)(ii)(A)(3), I hereby certify that the following laboratory tests are projected to reach relevant termination criteria related to their associated solution chemistry at the dates listed below. These estimated completion dates have been projected based on initial testing data and typical test durations for similar test specimens and parameters, and accounts for standard laboratory operational procedures and test volume limitations of this laboratory facility, which indicated that up to 6-8 weeks may be required for the tests to be completed from the date that they are received. This testing duration is based on the low permeability nature of the specimens and projected laboratory capacity to perform these standard test methods. The projected start dates are based on current understanding of drilling sequencing and expected dates of sample receipt plus processing time.

Laboratory Test: ASTM D5084 Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

Sample Location	Sample No.	Test Status	Sample Received by Laboratory Date	Completion Date
HA-EP-S16	M-1	Completed	6/25/2021	7/19/2021
HA-EP-S6	U-1	Completed	7/6/2021	8/4/2021
HA-EP-S6	U-3	Completed	7/6/2021	8/4/2021
HA-EP-S11	U-1A	Completed	7/6/2021	8/4/2021
HA-EP-S11	U-3B	Completed	7/6/2021	8/4/2021
HA-EP-S16	U-1	Completed	7/6/2021	8/4/2021
HA-EP-S16	U-3	Completed	7/6/2021	8/4/2021
HA-EP-S16	U-9	Completed	7/6/2021	8/4/2021
HA-EP-S21	U-2A	Completed	7/6/2021	8/4/2021
HA-EP-S26	S26-UA-41-43	Completed	7/6/2021	8/4/2021
HA-EP-S31	S31-UA-66-69	Completed	7/6/2021	8/4/2021
HA-EP-S36	S36-U1-41-43	Completed	7/21/2021	8/10/2021
HA-EP-S41	S41-Ua-96-98	Completed	7/21/2021	8/10/2021
HA-EP-S46	S46-U-186-188	Completed	7/21/2021	8/10/2021
HA-EP-S51	S51-U-96-98	Completed	7/21/2021	8/10/2021
HA-EP-S61	S61-U-106-108.5	Completed	7/21/2021	8/10/2021
HA-EP-S66	S66-U-151-152	Completed	7/28/2021	8/18/2021

Sample Location	Sample No.	Test Status	Sample Received by Laboratory Date	Completion Date
HA-EP-S66	S66-U-216-217.5	Completed	7/28/2021	8/18/2021
HA-EP-S71	S71-U-36-38	Completed	7/28/2021	8/18/2021
HA-EP-S71	S71-U-96-98	Completed	7/28/2021	8/18/2021
HA-EP-S71	S71-U-216-218	Completed	7/28/2021	8/18/2021
HA-EP-S76	S76-U-101-103	Completed	7/28/2021	8/18/2021
HA-EP-S76	S76-U-247-249.5	Completed	7/28/2021	8/18/2021
HA-EP-S81	S81-U-61-63.5	Completed	7/28/2021	8/25/2021
HA-EP-S81	S81-U-266-268	Actively Running	7/28/2021	9/5/2021*
HA-EP-S86	S86-U-86-88	Completed	7/28/2021	8/25/2021
HE-EP-S61	S61-U-31-33	Completed	7/28/2021	8/25/2021
HA-EP-S36	S36-Ua-67-69	Completed	7/28/2021	8/25/2021
HA-EP-S28	S28-U-10-12	Actively Running	8/10/2021	9/5/2021*
HA-EP-S29	S29-U-146-148	Actively Running	8/10/2021	9/5/2021*
HA-EP-S30	S30-U-86-88	Actively Running	8/10/2021	9/5/2021*
HA-EP-S32	S32-U-78-80	Actively Running	8/10/2021	9/5/2021*
HA-EP-S32	S32-U-116-118	Actively Running	8/10/2021	9/5/2021*
HA-EP-S37	S37-U-76-78	Actively Running	8/10/2021	9/5/2021*
HA-EP-S38	S38-U-30-32	Actively Running	8/10/2021	9/5/2021*
HA-EP-S39	S39-U-16-18	Actively Running	8/10/2021	9/5/2021*
HA-EP-S27	S27-U-71-73	Actively Running	8/10/2021	9/5/2021*
HA-EP-S34	S34-U-81.5-83.5	Actively Running	8/10/2021	9/5/2021*
HA-EP-S40	U-116-118	Actively Running	8/10/2021	9/5/2021*
HA-EP-S36	S36-Ssa-176	Actively Running	7/21/2021	9/24/2021*
HA-EP-S46	S46-SS-36	Actively Running	7/21/2021	9/24/2021*
HA-EP-S56	S56-SS-68	Actively Running	7/21/2021	9/24/2021*
HA-EP-S20	S20-U-206-208	Actively Running	8/18/2021	9/24/2021*
HA-EP-S35	S35-U-56-58	Actively Running	8/18/2021	9/24/2021*
HA-EP-S43	S43-U-20-22	Actively Running	8/18/2021	9/30/2021*
HA-EP-S88	S88-U-140-142	Actively Running	8/18/2021	9/30/2021*
HC Test#49	TBD	Future	8/30/2021*	9/30/2021*
HC Test#50	TBD	Future	8/30/2021*	9/30/2021*
HC Test#51	TBD	Future	8/30/2021*	9/30/2021*
HC Test#52	TBD	Future	8/30/2021*	9/30/2021
HC Test#53	TBD	Future	8/30/2021*	9/30/2021*
HC Test#54	TBD	Future	8/30/2021*	9/30/2021*
HC Test#55	TBD	Future	9/8/2021*	10/10/2021*
HC Test#56	TBD	Future	9/8/2021*	10/10/2021*
HC Test#57	TBD	Future	9/8/2021*	10/10/2021*
HC Test#58	TBD	Future	9/8/2021*	10/10/2021*
HC Test#59	TBD	Future	9/8/2021*	10/10/2021*
HC Test#60	TBD	Future	9/8/2021*	10/10/2021*

Sample Location	Sample No.	Test Status	Sample Received by Laboratory Date	Completion Date
HC Test#61	TBD	<i>Future</i>	9/20/2021*	10/29/2021*
HC Test#62	TBD	<i>Future</i>	9/20/2021*	10/29/2021*
HC Test#63	TBD	<i>Future</i>	9/20/2021*	10/29/2021*
HC Test#64	TBD	<i>Future</i>	9/20/2021*	10/29/2021*
HC Test#65	TBD	<i>Future</i>	9/20/2021*	10/29/2021*
HC Test#66	TBD	<i>Future</i>	9/27/2021*	11/23/2021*
HC Test#67	TBD	<i>Future</i>	9/27/2021*	11/23/2021*
HC Test#68	TBD	<i>Future</i>	9/27/2021*	11/23/2021*
HC Test#69	TBD	<i>Future</i>	9/27/2021*	11/23/2021*
HC Test#70	TBD	<i>Future</i>	9/27/2021*	11/23/2021*

*Date represents forecasted estimation

This certification is provided for the sole purpose of meeting the requirements 40 C.F.R. 257.71(d)(2)(ii)(A) and is not a contractual commitment that testing will be initiated or completed by the date certified.

Signed:  _____

Print Name: Hunter Garrison

Company Name: Ninyo & Moore

Title: Laboratory Manager

Date: 8/30/2021

ATTACHMENT D



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ATTACHMENT D-1
ASTM D7100 Hydraulic Conductivity Samples Progress Summary



ASTM D7100 Hydraulic Conductivity Samples Progress Summary

Boring Locations Drilled (HA-EP-S__)	Drilled & Sampled	Samples Received by Laboratory	ASTM D7100 Laboratory Testing Completion	Comments
11*, 16*, 21*	6/16/2021 - 6/25/2021	8/13/2021	<i>2/1/2022</i>	
41*, 46*, 51*	6/29/2021 - 7/10/2021	8/16/2021 - 8/30/2021	<i>2/1/2022 - 2/11/2022</i>	
66*, 76*, 81*	7/11/2021 - 7/23/2021	8/16/2021 - 8/27/2021	<i>2/1/2022 - 2/11/2022</i>	
31*	6/24/2021 - 6/29/2021	9/7/2021	<i>2/28/2022</i>	

Notes:

Samples are grouped in table based on when they were collectively sent to the laboratory.

Bold - Completed Work

Italicized - Tentative / Projected Work

*Boring locations assigned for ASTM D5084 and D7100 Testing

ATTACHMENT D-2
ASTM D5084 Hydraulic Conductivity Samples Progress Summary



ASTM D5084 Hydraulic Conductivity Samples Progress Summary

Boring Locations Drilled (HA-EP-S__)	Drilled & Sampled	Samples Received by Laboratory	ASTM D5084 Laboratory Testing Completion	Comments
1, 6*, 16*, 21*	6/8/2021 - 6/23/2021	6/25/2021, 7/6/2021	8/4/2021	
11*, 26*, 31*	6/20/2021 - 6/29/2021	7/6/2021	8/4/2021	
36*, 41*, 46*, 51*, 56*, 61*	6/26/2021 - 7/16/2021	7/21/2021	8/10/2021	<i>Additional tests assigned in S36, S46, S56 at later date; testing to be completed 9/24/2021</i>
66*, 71*, 76*, 81*, 86*	7/11/2021 - 7/24/2021	7/28/2021	8/25/2021	
27*, 28*, 29*, 30*, 32*, 33, 34*, 37*, 38*, 39*, 40*	7/21/2021 - 8/7/2021	8/10/2021	9/5/2021	
5, 20*, 25, 35*, 42, 43*, 44, 87, 88*	8/6/2021 - 8/17/2021	8/18/2021	9/30/2021	
2, 3, 4, 7, 8, 9, 10, 12, 13, 22, 36P, 45, 80, 82, 83, 84, 85, SO-1, SO-2	8/15/2021 - 8/29/2021	8/30/2021	9/30/2021	<i>6 samples to be selected for ASTM D5084 Laboratory Testing</i>
14, 15, 17, 18, 19, 35P, 47, 48, 74, 75, 77, 78, 79, 600-ft, Ph3-1, Ph3-2	8/28/2021 - 9/7/2021	9/8/2021	10/10/2021	<i>6 samples to be selected for ASTM D5084 Laboratory Testing</i>
23, 24, 49, 50, 52, 53, 54, 55, 57, 64, 65, 67, 68, 69, 70, 72, 73, Ph3-3, Ph3-4, Ph3-5, Ph3-6, Ph3-7	9/6/2021 - 9/18/2021	9/20/2021	10/29/2021	<i>5 samples to be selected for ASTM D5084 Laboratory Testing</i>
58, 59, 60, 62, 63	9/18/2021 - 9/26/2021	9/27/2021	11/23/2021	<i>5 samples to be selected for ASTM D5084 Laboratory Testing</i>

Notes:

Samples are grouped in table based on when they were collectively sent to the laboratory.

Bold - Completed Work

Italicized - Tentative / Projected Work

*Boring locations assigned for ASTM D5084 Testing